

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Xuehai En et al. Art Unit : 2164  
Serial No. : 09/346,195 Examiner : Richard C. Weisberger  
Filed : July 1, 1999 Conf. No. : 2114  
Title : SELECTING INVESTMENTS FOR A PORTFOLIO

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Responsive to the Notice to File Corrected Application Papers mailed October 20, 2010  
(a copy of which is enclosed), applicant as a large entity submits herewith the following:

- ☒ Substitute drawings (2 sheets) in compliance with 37 CFR §1.84. Specifically, the attached replacement sheets of drawings include legible copies of Figs. 3A and 4 and replace the original sheets Fig. 3A and 4. No new matter has been added.
- ☒ Legible text for line 1 of the first equation in claim 25 (as filed 12/30/3009), is provided below. No new matter has been added.

25. A computer-implemented method of constructing a portfolio, the method comprising:

receiving target allocations of percentages of different types of assets, the types of assets comprising domestic stock funds, foreign stock funds, bonds, and fixed income assets;  
receiving a list of investments available for inclusion in the portfolio;  
screening by one or more computers the list of investments;  
causing one or more computers to select and weight investments from the screened list of investments based on a measure of the risk-adjusted excess return of selected investments and the received target allocations, the measure of risk-adjusted excess return comprising an alpha measurement determined in accordance with:

**CERTIFICATE OF MAILING BY EFS-WEB FILING**

I hereby certify that this paper was filed with the Patent and Trademark Office using the EFS-WEB system on this date: 10/26/2010

$$R_t = \alpha + \beta_1 R_{1t} + \beta_2 R_{2t} + \dots + \beta_N R_{Nt} + \varepsilon_t,$$

where

$\alpha$  = the risk adjusted excess return (alpha);

$R_t$  = the excess return of a fund in month  $t$ ;

$R_{kt}$  = the excess return of factor  $k$  in month  $t$  ( $k = 1 \dots N$ );

$\beta_k$  = the  $\beta$  of factor  $k$  ( $k = 1 \dots N$ );

$\varepsilon_t$  = the tracking error in month  $t$ ;

the weightings determined using

$$\text{Minimize } \lambda W^T H W - G^T W$$

$$\text{Subject } \sum_{i=1}^N W_i = 1$$

$$Upper_{stock} \geq Stock\% \geq Lower_{stock}$$

$$Upper_{bonds} \geq Bonds\% \geq Lower_{bonds}$$

$$Upper_{cash} \geq Cash\% \geq Lower_{cash}$$

$$Upper_{foreign} \geq Foreign\% \geq Lower_{foreign}$$

where

$W$  = weight matrix of fund tracking – error wrt the investment benchmark

$G$  =  $p$  - value of funds

$\lambda$  = risk aversion ratio

and

$p$  - value =  $t$  - distribution (student  $t$ ,  $n - p - 1$ )

$$\text{student } t = \frac{\alpha}{\sigma(\varepsilon_t)/\sqrt{n-p}} = \text{information ratio } \times \sqrt{n-p}$$

$$\text{Information ratio} = \alpha/\sigma(\varepsilon_t)$$

where

$\alpha$  = average risk adjusted excess return during the period;

$\sigma(\varepsilon_t)$  = tracking - error wrt the custom benchmark;

$n$  = number of observations;

$p$  = number of the independent random variables;

$n - p - 1$  = degrees of freedom in  $t$  - test.

It is understood that this perfects the application and no additional papers or filing fees are required.

Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 08575-0046001.

Respectfully submitted,

Date: October 26, 2010

/ Christina V. McDonough/

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